

DO WE NEED A RESERVE MARGIN FOR STORAGE?



What is TURN?

- Private consumer advocacy group representing residential and small commercial customers. Advocates at CPUC, Legislature and Courts
- On gas side, generally concerned about cost allocation and service quality

Why Are we Concerned with Storage?

- Has electric deregulation derailed the natural gas regulatory model?
Or, do we have an electric reliability problem?
- Is existing storage being used to provide a cost-effective physical hedge against basis blowouts?

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Natural Gas Regulatory Model Developed in late 80's and early 90's:

- Core/noncore distinction based on alternative fuel availability
- Unbundling of services for noncore, including commodity, interstate transportation and storage
- Curtailment rules provide for different level of reliability of transportation service
- Imbalance rules attempt to provide some system security
- All gas-fired generation was UEG

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Changes Resulting from or Driven by Electric Deregulation:

- Almost all gas-fired generators sold to merchant owners
- All but a few RMR plants pull out oil tanks and no longer have dual fuel capability
- Gas storage and dispatch decisions not centralized or known to regulators
- Development of two independent storage facilities – Wild Goose and Lodi, with capacity of about 27 Bcf (expanding to 41 Bcf)

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Changes Resulting from or Driven by the Energy Crisis resulting from Electric Deregulation:

- Over 6000 MW of gas-fired generation added in 2000-03
- DWR enters into long-term contracts for substantial portion of net short capacity and energy
- Approximately half of max energy take in DWR contracts have gas tolling arrangements
- CPUC assigns contract administration to utilities
- Utilities submit “Gas Plans” for managing contracts with gas tolling provisions

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PROBLEM:

- Can current curtailment rules really work in case of gas supply emergency?
 - Can gas-fired generators operate when curtailed?
 - Would curtailment of gas service result in electric blackouts?
 - Can existing RMR plants provide sufficient output?
- Can market participants provide hedging (financial or physical) to prevent debilitating price spikes?

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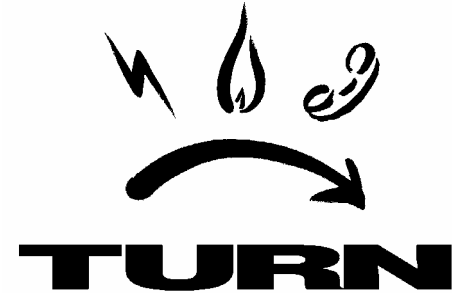
Use of storage:

- Physical Price hedging
- Reliability
- Contracting capacity versus filling with commodity

Who ensures system reliability?

- Core customers?
- Utility contract administrators?
- Merchant generators and private storage operators?

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Actual Use of unbundled storage:

- Entirely Voluntary
- Actual fill depends on economics and expectation of future prices

Table: Percentage of unbundled
storage physically filled

	Nov. 2000	Nov. 2001	Nov. 2002
SoCalGas	10-20%	75-95%	>95%

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Solutions to Electric Reliability Problem:

- Rebundle storage for noncore customers
- Strategic Storage Reserve
- Minimum fill requirements
- Change imbalance rules
- Change curtailment rules

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Solutions to Electric Reliability Problem:

- Change Curtailment Rules
 - Commission rejected giving EGs a priority
 - Commission rejected ranking EGs by heat rate

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Solutions to Electric Reliability Problem:

- Minimum fill requirements
 - For large EGs or RMR plants
 - For utility tolling arrangements
- Must contract for capacity and fill by Oct. 31, or utility will fill

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Solutions to Electric Reliability Problem:

- Strategic storage reserve
 - 10 days' worth of average EG burn
 - $10 \times 0.82 = 8.2$ Bcf (assuming 300 Bcf annual throughput)
 - $8.2 \text{ Bcf} * (\$25\text{MM}/44\text{Bcf}) = \4.7 million
 - Increases EG rate by .15 cents/th, or about 5%
 - Target is large EGs
 - Purchase gas at actual cost based on T forecast or curtailment
 - Issue – adequate withdrawal capacity?

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Solutions to Electric Reliability Problem:

- Rebundle all storage – reliability and price hedging
 - Utility fills all available storage above core reservation
 - All customers pay capacity and carrying costs
 - Sell gas to noncore on open market
 - Manage sales based on basis differentials and temperature, with some reserve for end of winter
- Order both SoCalGas, PG&E as well as independent regulated storage provides to fill S